SAFETY DATA SHEET
Oxygen Generator, Chemical – Type B

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: **Oxygen Generator, Chemical** **Revision**: May, 2015

Product Use: For use in **Aircraft oxygen module assemblies that provide supplemental emergency oxygen**

Product Part Number:

803000-02, -03, -04, -12, -13, -14, -15, -21, -22, -23, -24, -25	801462-04, -05, -06	803338-01
801386-11, -22, -32, -34, -81, -82, -83, -84, -87	805100-03, -04	802093-01
801387 -03, -12, -13, -14, -15, -22, -23, -42	S117019-02, -03	802111-00, -06
802501-13, -15, -16, -19	802502-10, -15, -16, -23	802512-15

Zodiac Oxygen Systems US (ZOSU)
225 Erie Street
Lancaster, NY 14086
Telephone 716-683-5100

CHEMTREC Emergency Telephone Numbers:

United States: 800-424-9300
International: 703-527-3887 (collect)

SECTION 2: HAZARD IDENTIFICATION

Classification of Substance: This Chemical is classified as an Oxidizing Solid.

Eye Contact: Generator contents can burn, cause eye irritation and redness.

Skin Contact: Sodium chlorate is irritating to skin. May cause rash, pain, redness and severe irritation.

Ingestion: Generator contents could cause vomiting, abdominal pain, and possible liver and kidney damage. Both barium and sodium chlorate are toxic if ingested. Reported lethal doses of sodium chlorate are 2 grams for children and 15 - 30 grams for adults.

Inhalation: Dust from generator contents may cause irritation to the mucous membranes, throat and nose. Could also cause lung damage and is a possible carcinogen.

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GHS LABEL ELEMENTS:

Oxygen Generator, Chemical
(Sodium Chlorate, Potassium Perchlorate- oxidizers)

Signal Word: Danger
Hazard Statement: May intensify fire; oxidizer.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Contents of Generator	CAS #	EC #	WGT %
Sodium Chlorate	7775-09-9	231-887-4	less than 90
Manganese Dioxide	1313-13-9	205-202-6	less than 10
Copper Oxide	1317-38-0	215-269-1	less than 10
Barium Peroxide	1304-29-6	215-128-4	less than 10
Potassium Perchlorate	7778-74-7	231-912-9	less than 10
Iron Powder	7439-89-6	231-096-4	less than 10
Silicon Dioxide	14808-60-7	238-878-4	less than 10
Titanium Dioxide	13463-67-7	236-675-5	less than 10
Mica	12001-26-2	Not available	less than 10
Magnesium Oxide	1309-48-4	215-171-9	less than 1
Talc	14807-96-6	238-887-9	less than 1
Iron Oxide	1309-37-1	215-168-2	less than 1
Tetrazene	109-27-3	not available	less than 0.01
Lead styphnate	15245-40-0	239-290-0	less than 0.01

Listed as IARC Carcinogen: silicon dioxide
Listed as NTP Carcinogen: silicon dioxide, talc, quartz
OSHA Carcinogen: none

SECTION 4: FIRST AID MEASURES

Inhalation: In the event of contact with the generator contents, avoid breathing excessive dust. Remove to fresh air at once. If not breathing give artificial respiration and call emergency responders.

Skin Contact: In the event of contact with the generator contents, wash affected area with soap and water. Get medical attention if irritation occurs.

Eye Contact: In the event of contact with the generator contents, flush eyes with a directed stream of water for at least 15 minutes. Forcibly hold eyelids apart to ensure complete irrigation of all eye and lid tissue. Get medical attention if irritation occurs.

Ingestion: Contact physician immediately.

SECTION 5: FIRE FIGHTING MEASURES

Flash Point: Not Applicable

Flash Point Method: Not Applicable

Flammable Limits: Not Applicable

Auto ignition Temperature: Not Applicable

Unusual Fire & Explosion Hazards: Generators contain oxidizers. Oxidizers generate their own oxygen as they burn and therefore cannot be extinguished by means other than water. Do not use CO2 or dry extinguishers as they are ineffective and may create a worse situation. Contact between the generator contents and other materials may cause fire.

Special Firefighting Procedures: Avoid bodily contact. Wear self contained breathing apparatus and wear appropriate protective equipment. Keep material from exposure to high heat by using water to cool containers.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Steps To Be Taken In Case Material Is Released Or Spilled:

Loose chemicals and components should be carefully placed into a dry metal container. Vacuuming or wet sweep may be used to avoid dust dispersal. Be sure to wear appropriate PPE while conducting clean up. If an amount spills that is too large for local clean up, call HAZMAT responders immediately.

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SECTION 7: HANDLING AND STORAGE

Storage Temperature & Pressure: Store the generators in a well ventilated, dry area at normal ambient temperature and pressure.

General: Do not disassemble the generator or allow the generator to become damaged. Do not store in wet or moist environments. Keep generators in manufacturer's original packaging when not in use. Practice good housekeeping techniques.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Contents of Generator	Exposure Limits	
	Regulating Agency	**Exposure Limit/Classification**
Manganese Dioxide	ACGIH	TLV 0.2 mg Mn/m3 air
	OSHA	PEL 5 mg Mn/m3 air
Copper Oxide	ACGIH	TLV 1 mg Cu/m3 air
	OSHA	PEL 1 mg Cu/m3 air
Sodium Chlorate	--	None (oxidizer)
Barium Peroxide	ACGIH	0.5 mg/m^3
	OSHA	0.5 mg/m^3
Iron Powder	--	None
Silicon Dioxide	ACGIH	0.025 mg/ m^3
	OSHA	10mg/ m^3 /($\%SiO_2$ +2) (Resp)
Titanium Dioxide	ACGIH	10 mg/ m^3
	OSHA	15mg/ m^3 total dust
Mica	ACGIH	3 mg/ m^3
	OSHA	20 mppcf
Potassium Perchlorate	--	None (oxidizer)
Magnesium Oxide	ACGIH	10 mg/ m^3
	OSHA	15 mg/ m^3 total dust
Talc	ACGIH	2 mg/ m^3
	OSHA	20 mppcf
Iron Oxide	ACGIH	5 mg/ m^3 fume as Fe
	OSHA	10 mg/ m^3 fume
Tetrazene	ACGIH	None established
	OSHA	None established
Lead styphnate	ACGIH	None established
	OSHA	None established

Do not disassemble the generator or allow the generator to become damaged.

Personal Protection: If handling the contents of the generator:

Eye Protection: Safety glasses or goggles
Respiratory Protection: NIOSH approved air purifying filter respirator
Skin and body protection: Protective clothing
Hand protection: Impervious gloves

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: A compressed, gray, chemical core enclosed within a metal canister.

Odor:	None	**Odor Threshold**:	Not Applicable
pH:	Alkaline	**Melting Point/Freezing Point**:	Not Applicable
Initial Boiling Point and Range:	Not Applicable	**Flash Point**:	Not Applicable
Evaporation Rate:	Not Applicable	**Flammability**:	Not Applicable
UEL:	Not Applicable	**LEL**:	Not Applicable
Vapor Pressure:	Not Applicable	**Vapor Density**:	Not Applicable
Relative Density:	Not Applicable	**Solubility(ies):**	Appreciable
Partition Coefficient:	Not Applicable	**Autoignition Temperature**:	Not Applicable
Decomposition Temperature:	Not Applicable		

SECTION 10: STABILITY AND REACTIVITY

Conditions to Avoid:	Do not disassemble the generator or allow the generator to become damaged. Avoid storing generators with chemicals, acids, ignition sources and combustible materials. Avoid mixing or contaminating the contents of the generator with other chemicals, including acids, and combustible materials. Keep contents of generator away from sources of friction and ignition sources.
Incompatibility:	The contents of the generator are incompatible with oils, organic chemicals, acids and metals including aluminum.
Hazardous Decomposition Products:	Can include chlorine and chlorine dioxide.
Hazardous Polymerization:	Will not occur.
Stability:	Stable

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Toxicity:	Not Applicable	**Germ Cell Mutatgenicity**:	Not Applicable
Skin Corrosion/irritation:	Not Applicable	**Carcinogenicity**:	Not Applicable
Serious Eye Damage:	Not Applicable	**Reproductive Toxicity**:	Not Applicable
Respiratory or skin sensitization:	Not Applicable	**Aspiration Hazard**:	Not Applicable
Immediate Effects:	Not Applicable		
Delayed Effects:	Not Applicable		

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity:	Not Applicable
Persistence and Degradability:	Not Applicable
Bioaccumulative Potential:	Not Applicable
Mobility in Soil:	Not Applicable
Other adverse effects:	Not Applicable

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SECTION 13: DISPOSAL CONSIDERATIONS

Generators must be spent prior to disposal. Due to barium within the generator it is considered a hazardous waste even after it is spent. The spent generator must be disposed of in accordance with all Federal, State and local regulations.

SECTION 14: TRANSPORTATION INFORMATION

DOT/UN Shipping Name: Oxygen Generator, Chemical

DOT/UN Hazard Class: 5.1

DOT/UN Number: UN 3356

Packing Group: II – Medium Danger

Marine Pollutant: No

Notice: Special Shipping restrictions apply. Refer to United States Code of Federal Regulations (CFR 49) or other applicable government regulations. Government approval, exemptions or permits may be required.

SECTION 15: REGULATORY INFORMATION

This device is a chemical oxygen generator and is classified as an “Article” as defined in 29 CFR 1910.1200 (b) (6) (v) - 1 July 1995. Therefore, this device does not require a Material Safety Data Sheet. However, for Federal procurement, a MSDS is required per Federal Standard No. 313C (GSA Federal Supply Service).

SECTION 16: OTHER INFORMATION

The information contained herein is, to the best of our knowledge and belief, accurate. However, AVOX Systems Inc. assumes no liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. It is the responsibility of the user to comply with all applicable Federal, State, and Local laws and regulations.

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